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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,816	12/13/2000	Ardavan Bahraini	578-3001	4910
40440	7590	02/23/2005	EXAMINER	
WOLF, BLOCK, SCHORR & SOLIS-COHEN LLP 1650 ARCH STREET, 22ND FLOOR PHILADELPHIA, PA 19103-2334			MANNING, JOHN	
			ART UNIT	PAPER NUMBER
			2614	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,816

Applicant(s)

BAHRAIN ET AL.

Examiner

John Manning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banker et al. (US Pat No 5,247,364) in view of Bacon et al. (US Pat No 5,440,632)

In regard to claim 1, the claimed steps of "transmitting a signal on an out-of-band channel to be received by the set top box, the signal indicating an in-band service channel frequency" and "receiving the signal at the set top box to identify the in-band service channel frequency" are met by Figures 5B and 7A. "The message definition transaction transmission includes a background color field for setting the background color of the on-screen display and a tuning field which instructs the terminal which data channel to tune to receive the message, which in this example, is the message channel" (Col 8, Lines 20-25). Additionally, "Addressable transmitter 208 transmits data to out-of-band subscriber terminals via a dedicated FM data channel such as a 108.2 megahertz

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data channel in the cable television distribution system. This channel, known as the data carrier, is used to transmit both addressable commands intended for a particular out-of-band subscriber terminal and global commands intended for all out-of-band subscriber terminals in the system. Out-of-band subscriber terminals contain a receiver that is listening to the commands sent over this data channel. Unlike the in-band transactions described in detail below, out-of-band subscriber terminals receive data over this channel no matter what channel the subscriber terminal is tuned to" (Col 2, Line 55-67). Banker fails to explicitly disclose "receiving signals over the in-band service channel frequency to initialize the set top box" or "identifying the set top box to the cable system by transmitting signals from the set top box via a return path". Bacon teaches the initialization of a set top box so as to allow the new or modified control program code to configure the set top box. Bacon also teaches identifying the set top box to the cable system by transmitting signals from the set top box via a return path so as to maintain billing information. "Signaling and data information may also flow in the reverse direction from the subscriber terminals to the headend via a reverse signaling path through the distribution system 52. In one form, the reverse signals are digital biphase shift keying (BPSK) modulated and applied to a frequency below 50 MHz. The signals flow back from the subscriber terminals to an IPPV processor where they are decoded. In addition, any of the subscriber terminals 40, 44 and 48 may include a modem and telephone link 56 to a telephone processor 16 at the headend 10. The information from processors 14 and 16 are directed to the system manager 12, which communicates to the billing computer 11 to obtain authorization and billing information.

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The reverse signaling system has generally been used for ordering pay-per-view (PPV) or impulse-pay-per-view (IPPV) events. In the future the reverse signal path may be used for any number of additional interactive services" (Col 5, Lines 65-68; Col 6, Lines 1-14). "Upon initialization or reset, the control microprocessor 128 begins executing instructions at block A10. In that block, the microprocessor 128 initializes all the input/output ports of the device so that it can communicate with the remaining portions of the terminal. Next, in block A12 the MCC 104 is initialized to allow further communications with and control of the other devices in the subscriber terminal 40. Additionally, the microprocessor 128 in block A14 will cause the MCC 104 to provide initialization for the on screen display through the on screen display control 127. The microprocessor 128 will then check to determine whether the secure microprocessor 136 is ready to communicate and receive instructions. If the secure microprocessor 136 is not ready, the microprocessor 128 will loop back to the entry of block A16 until it receives an indication that the secure microprocessor has been initialized" (Col 13, Lines 66-68; Col 14, Lines 1-17). Consequently, it would have been obvious to one of ordinary skill in the art to modify Banker with initialization of a set top box so as to allow the new or modified control program code to configure the set top box and identifying the set top box to the cable system by transmitting signals from the set top box via a return path so as to maintain billing information.

In regard to claims 2 and 13 the Leary reference discloses a method of configuring a cable television converter or a set top box, using multiple channels. The reference fails to explicitly disclose the use of a DOCSIS in-band channel. However,

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the examiner gives OFFICIAL NOTICE that it is notoriously well known in the art to use DOCSIS so as to provide the specifics of the relationship between customer premises equipment and the CMTS (Cable Modem Termination System) at the head-end of the service provider's network. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the Leary reference with DOCSIS so as to provide the specifics of the relationship between customer premises equipment and the CMTS (Cable Modem Termination System) at the head-end of the service provider's network.

In regard to claims 3 and 14 the Leary reference discloses a method of configuring a cable television converter or a set top box, using multiple channels. The reference fails to explicitly disclose the use of a DAVIC in-band channel. However, the examiner gives OFFICIAL NOTICE that it is notoriously well known in the art to use DAVIC so as to provide the specifications of open interfaces and protocols that maximize the interoperability across countries and applications/services.

Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the Leary reference with DAVIC so as to provide the specifications of open interfaces and protocols that maximize the interoperability across countries and applications/services.

In regard to claim 4, it is implied and *obvious* that the in-band service channel is in the range of 100 MHz to 800 MHz, because it is notoriously well know in the art that the "in-band" frequencies in cable systems cover this range.

In regard to claim 5, in the Banker reference, a "trace and routing" message is sent on an out-of-band channel that contains the in-band service channel frequency

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parameters and a "flag" which indicated the presence of the in-band signal. "The message definition transaction transmission includes a background color field for setting the background color of the on-screen display and a tuning field which instructs the terminal which data channel to tune to receive the message, which in this example, is the message channel" (Col 8, Lines 20-25).

In regard to claim 6 the Leary reference discloses a method of configuring a cable television converter or a set top box, using multiple channels. The reference fails to explicitly disclose the use of UDP/IP packets. However, the examiner gives OFFICIAL NOTICE that it is notoriously well known in the art to use UDP/IP packets so as to provide the head-end with user/set top box identification. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the Leary reference with UDP/IP packets so as to provide the head-end with user/set top box identification.

In regard to claim 10, the combined teaching does not explicitly disclose the frequency sweeping of the out-of-band frequency range. The applicant states that the use of frequency sweeping of the in-band frequency range so as to locate the control signal is widely known and used in the art. Accordingly, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with the frequency sweeping of the out-of-band frequency range so as to locate the control signal.

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4. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banker et al. in view of Bacon et al. and further view of Hendricks et al. (US Pat No 5,990,927).

In regard to claims 7 and 8, the aforementioned combined teaching discloses a method of configuring a cable television converter or a set top box, using multiple channels. The combined teaching fails to explicitly disclose the step of authorizing a digital access controller before or after the step of transmitting the out-of-band control signal. Hendricks et al. reference teaches the initialization or configuration, by the digital access controller or the network controller 214, of the set top box, which can take place either before or after the out-of-band transmission so as to give the end-user access to the provided services. "As a network controller 214, the cable headend 208 performs the system control functions for the system. The primary function of the network controller 214 is to manage the configuration of the set top terminals 220 and process signals received from the set top terminals 220. In the preferred embodiment, the network controller 214 monitors, among other things, automatic poll-back responses from the set top terminals 220 remotely located at each subscribers' home. The polling and automatic report-back cycle occurs frequently enough to allow the network controller 224 to maintain accurate account and billing information as well as monitor authorized channel access. In the simplest embodiment, information to be sent to the network controller 224 will be stored in RAM within each subscriber's set top terminal 220 and will be retrieved only upon polling by the network controller 214. Retrieval may, for example, occur on a daily, weekly or monthly basis. The network controller 214

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allows the system to maintain complete information on all programs watched using a particular set top terminal 220. The network controller 214 is also able to respond to the immediate needs of a set top terminal 220 by modifying a program control information signal received from the operations center 202. Therefore, the network controller 214 enables the delivery system to adapt to the specific requirements of individual set top terminals 220 when the requirements cannot be provided to the operations center 202 in advance. In other words, the network controller 224 is able to perform "on the fly programing" changes. With this capability, the network controller 214 can handle sophisticated local programming needs such as, for example, interactive television services, split screen video, and selection of different foreign languages for the same video. In addition, the network controller 214 controls and monitors all compressors and decompressors in the system" (Col 9, Lines 30-65). Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with the initialization or configuration, by the digital access controller or the network controller 214, of the set top box, which can take place either before or after the out-of-band transmission so as to give the end-user access to the provided services.

In regard to claim 9, the combined teaching discloses a method of configuring a cable television converter or a set top box, using multiple channels. The combined teaching fails to explicitly disclose the step of pre-loading application software into the set top box. Hendricks et al. reference teaches that the network controller 214 can provide the set top box with "pre-loaded application software" or advance programming as well as "on the fly programming" so as to provide the set top box with software

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necessary for performing desired functions. The Hendricks et al. discloses that the "network controller 214 is also able to respond to the immediate needs of a set top terminal 220 by modifying a program control information signal received from the operations center 202. Therefore, the network controller 214 enables the delivery system to adapt to the specific requirements of individual set top terminals 220 when the requirements cannot be provided to the operations center 202 in advance. In other words, the network controller 224 is able to perform "on the fly programing" changes. With this capability, the network controller 214 can handle sophisticated local programming needs such as, for example, interactive television services, split screen video, and selection of different foreign languages for the same video. In addition, the network controller 214 controls and monitors all compressors and decompressors in the system" (Col 9, Lines 50-65). Additionally, "the set top terminal 220 is the last component in the delivery system chain. The set top terminal 220 receives compressed program and control signals from the cable headend 208 (or, in some cases, directly from the operations center 202). After the set top terminal 220 receives the individually compressed program and control signals, the signals are demultiplexed, decompressed, converted to analog signals (if necessary) and either placed in local storage (from which the menu template may be created), executed immediately, or sent directly to the television screen" (Col 10, Lines 48-68). Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with the step of pre-loading application software into the set top box so as to provide the set top box with software necessary for performing desired functions.

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5. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banker et al. in view of Hendricks et al.

In regard to claim 11, in the Banker reference, a "trace and routing" message is sent on an out-of-band channel that contains the in-band service channel frequency parameters and a "flag" which indicated the presence of the in-band signal as can be seen in Figures 5B and 7A. "The message definition transaction transmission includes a background color field for setting the background color of the on-screen display and a tuning field which instructs the terminal which data channel to tune to receive the message, which in this example, is the message channel" (Col 8, Lines 20-25). Additionally, "Addressable transmitter 208 transmits data to out-of-band subscriber terminals via a dedicated FM data channel such as a 108.2 megahertz data channel in the cable television distribution system. This channel, known as the data carrier, is used to transmit both addressable commands intended for a particular out-of-band subscriber terminal and global commands intended for all out-of-band subscriber terminals in the system. Out-of-band subscriber terminals contain a receiver that is listening to the commands sent over this data channel. Unlike the in-band transactions described in detail below, out-of-band subscriber terminals receive data over this channel no matter what channel the subscriber terminal is tuned to" (Col 2, Line 55-67). The message is decoded before the set top box tunes to the designated channel. The reference fails to explicitly disclose the digital access controller connected to a billing system. The Hendricks et al. reference teaches the digital access controller connected to a billing system so as to maintain accurate account and billing information. Network "controller

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214, the cable headend 208 performs the system control functions for the system. The primary function of the network controller 214 is to manage the configuration of the set top terminals 220 and process signals received from the set top terminals 220. In the preferred embodiment, the network controller 214 monitors, among other things, automatic poll-back responses from the set top terminals 220 remotely located at each subscribers' home. The polling and automatic report-back cycle occurs frequently enough to allow the network controller 224 to maintain accurate account and billing information as well as monitor authorized channel access. In the simplest embodiment, information to be sent to the network controller 224 will be stored in RAM within each subscriber's set top terminal 220 and will be retrieved only upon polling by the network controller 214. Retrieval may, for example, occur on a daily, weekly or monthly basis. The network controller 214 allows the system to maintain complete information on all programs watched using a particular set top terminal 220." (Col 9, Lines 30-50). Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the Leary reference with the digital access controller connected to a billing system so as to maintain accurate account and billing information.

In regard to claim 12, the aforementioned combined teaching fails to disclose "determining a return path channel frequency after determining the in-band service channel frequency". Bacon teaches identifying the set top box to the cable system by transmitting signals from the set top box via a return path so as to maintain billing information. "Signaling and data information may also flow in the reverse direction from the subscriber terminals to the headend via a reverse signaling path through the

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distribution system 52. In one form, the reverse signals are digital biphase shift keying (BPSK) modulated and applied to a frequency below 50 MHz. The signals flow back from the subscriber terminals to an IPPV processor where they are decoded. In addition, any of the subscriber terminals 40, 44 and 48 may include a modem and telephone link 56 to a telephone processor 16 at the headend 10. The information from processors 14 and 16 are directed to the system manager 12, which communicates to the billing computer 11 to obtain authorization and billing information. The reverse signaling system has generally been used for ordering pay-per-view (PPV) or impulse-pay-per-view (IPPV) events. In the future the reverse signal path may be used for any number of additional interactive services" (Col 5, Lines 65-68; Col 6, Lines 1-14). Consequently, it would have been obvious to one of ordinary skill in the art to modify Banker with identifying the set top box to the cable system by transmitting signals from the set top box via a return path so as to maintain billing information.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 703-305-0345. The examiner can normally be reached on M-F: 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM
February 19, 2005



JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600